

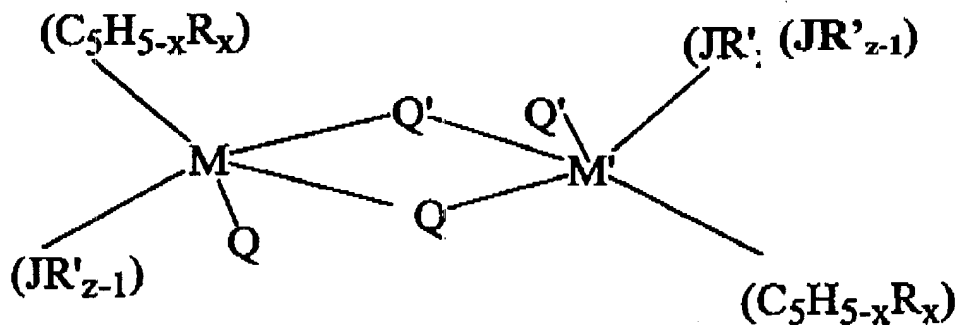
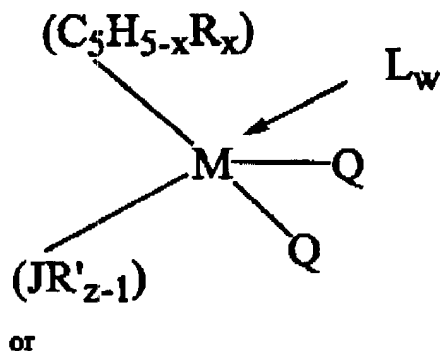
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**LISTING OF CLAIMS**

This listing of claims will replace all prior versions and listings of claims in the application:

1. - 26. (cancelled)

27. (previously presented) A compound having the general formula:



wherein M is Zr, Hf or Ti;

$(\text{C}_5\text{H}_{5-x}\text{R}_x)$  is a cyclopentadienyl ring which is substituted with from zero to five substituent groups "R", "x" is 0, 1, 2, 3, 4 or 5 denoting the degree of substitution, and each substituent group "R" is, independently, a radical selected from the group consisting of  $\text{C}_1$ - $\text{C}_{20}$  hydrocarbyl radicals, substituted  $\text{C}_1$ - $\text{C}_{20}$  hydrocarbyl radicals wherein one or more hydrogen atoms is replaced by a halogen atom,  $\text{C}_1$ - $\text{C}_{20}$  hydrocarbyl-substituted metalloid radicals wherein the metalloid is selected from the group IV A of the Periodic Table of Elements, and halogen radicals, or  $(\text{C}_5\text{H}_{5-x}\text{R}_x)$  is a cyclopentadienyl ring in which two adjacent "R" groups are joined forming a  $\text{C}_4$ - $\text{C}_{20}$  ring to give a saturated or

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unsaturated polycyclic cyclopentadienyl ligand;

(JR'<sub>z-1</sub>) is a heteroatom ligand in which J is an element with a coordination number of three from Group V-A or an element with a coordination number of two from Group VI-A of the Periodic Table of Elements, each "R" is, independently, a radical selected from a group consisting of C<sub>1</sub>-C<sub>20</sub> hydrocarbyl radicals, substituted C<sub>1</sub>-C<sub>20</sub> hydrocarbyl radicals where one or more hydrogen atoms is replaced by a halogen radical, and z is the coordination number of the element "J";

each "Q" is, independently, a univalent anionic ligand or two "Q"s together are a divalent anionic chelating ligand, provided that "Q" is different from (C<sub>5</sub>H<sub>5-x</sub>R<sub>x</sub>);

"L" is a neutral Lewis base where "w" is a number greater than 0 and up to 3;

"M" has the same meaning as "M"; and

"Q'" has the same meaning as "Q".

28. - 40. (cancelled)

41. (cancelled)

42. - 43. (cancelled)

44. (currently amended) The compound of claim 27 or 48 wherein each Q is independently selected from the group consisting of halogen, hydride or C<sub>1</sub>-C<sub>20</sub> hydrocarbyl.

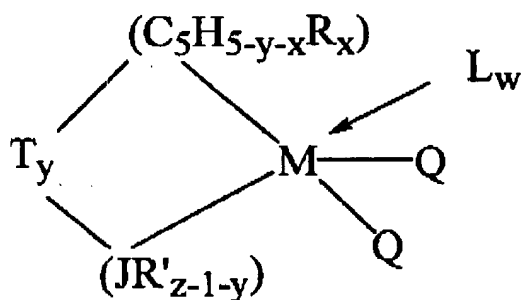
45. (currently amended) The compound of claim 27 or 48 herein each Q is independently selected from the group consisting of hydride, methyl, ethyl, propyl, butyl, amyl, hexyl, heptyl, octyl, nonyl, decyl, cetyl, phenyl, chloro, bromo, fluoro, and iodo.

46. (currently amended) The compound of claim 27 or 48 herein M is Zr.

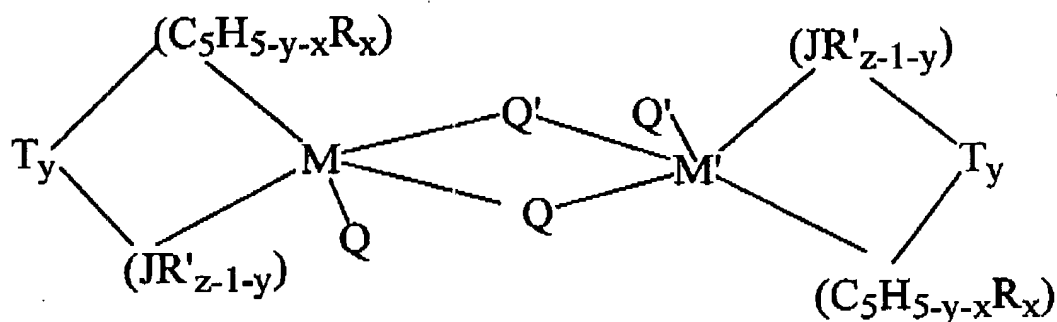
47. (currently amended) The compound of claim 27 or 48 wherein M is Hf.

48. (new) A compound having the general formula

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or



wherein M is Zr or Hf;

M' has the same meaning as M;

$(C_5H_{5-y-x}R_x)$  is a cyclopentadienyl ring which is substituted with from zero to five substituent groups R, x is 0, 1, 2, 3, 4 or 5 denoting the degree of substitution, and each substituent group R is, independently, a radical selected from the group consisting of  $C_1$ - $C_{20}$  hydrocarbyl radicals, substituted  $C_1$ - $C_{20}$  hydrocarbyl radicals wherein one or more hydrogen atoms is replaced by a halogen atom,  $C_1$ - $C_{20}$  hydrocarbyl-substituted metalloid radicals wherein the metalloid is selected from the group IV A of the Periodic Table of Elements, and halogen radicals, or  $(C_5H_{5-y-x}R_x)$  is a cyclopentadienyl ring in which two adjacent R substituents are joined forming a  $C_4$ - $C_{20}$  ring to give a saturated or unsaturated polycyclic cyclopentadienyl ligand;

$(JR'_{z-1-y})$  is a heteroatom ligand in which J is an element with a coordination number of three from group V-A or an element with a coordination number of two from Group VI-A of the Periodic Table of Elements, and each R' is a radical selected from the group consisting of  $C_1$ - $C_{20}$  hydrocarbyl radicals, substituted  $C_1$ - $C_{20}$  hydrocarbyl radicals

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where one or more hydrogen atoms is replaced by a halogen radical, and  $z$  is the coordination number of the element  $J$ ;

each  $Q$  is, independently, a univalent anionic ligand or two  $Q$ 's together are a divalent anionic chelating ligand, provided that  $Q$  is not a substituted or unsubstituted cyclopentadienyl ring;

$Q'$  has the same meaning as  $Q$ ;

$y$  is 1 when  $w$  is greater than 0;  $T$  is a covalent bridging group containing a Group IV-A or V-A element; and

$L$  is a neutral Lewis base where  $w$  denotes the number 0 or 1, and when  $w$  is 0  $y$  is 1.